

Work Order ID 92773

November-07-12 1:22:49 PM

92773

Page 1

Item ID: 646.3314

Accept

Revision ID:

Item Name: Blade

Start Date: 07/11/2012 Start Qty: 10.00

10

Required Date: 21/11/2012 Req'd Qty: 10.00

10

Reference:

Approvals: Process Plan: ML3 Date: 12-11-07 Tooling: Date: Run Start *NR1*
QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
646.3300	N/C								
100		0.00							
100	BAND SAW								
Bandsaw	Memo	0.00							
Jeaspa Bandsaw	Cut Blank at 5.050"								
110		0.00							
110	HAAS CNC VERTICAL MACHINING #1								
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	1-Machine per folio FB147 DWG REV: N/C FOLIO REV: A/A								

2- deburr and break all sharp edges except otherwise noted

J. Calais 12/11/13 10 0

DAS
14
9-83

ark 12/11/15

10 0

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS					
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>			
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>			
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>			
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>				
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										
FAULT CATEGORY										
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions						
				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Other						

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____	DISPOSITION			AGAINST DEPARTMENT/PROCESS						
Part No. _____	Rework	<input type="checkbox"/>	Skid-tube	<input type="checkbox"/>	Crosstube	<input type="checkbox"/>	Water Jet	<input type="checkbox"/>	Engineering	<input type="checkbox"/>
NCR No. _____	Scrap	<input type="checkbox"/>	Machining	<input type="checkbox"/>	Small Fab	<input type="checkbox"/>	Prod. Eng. Coor.	<input type="checkbox"/>	Quality	<input type="checkbox"/>
	Use-as-is	<input type="checkbox"/>	Thermoforming	<input type="checkbox"/>	Finishing	<input type="checkbox"/>	Rec/Store/Packaging	<input type="checkbox"/>	Other	<input type="checkbox"/>
	Work Order Update	<input type="checkbox"/>	Large Fab	<input type="checkbox"/>	Composite	<input type="checkbox"/>	Supplier	<input type="checkbox"/>		

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear		General									
<input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled	<input type="checkbox"/> Other						

Work Order ID 92773

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92773

Page 3

Item ID: 646.3314

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Blade

Stop

NS2

Start Date: 07/11/2012 Start Qty: 10.00

10

Cust Item ID:

Required Date: 21/11/2012 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:	Stop		*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

150 Receive & Inspect for Damage & Mat'l Certs

0.00

150

Packaging

Memo

0.00

11/11/12 (10)

Packaging

155

QC5- Inspect part completeness to step on W/O

0.00

155

QC

Quality Control

Memo

0.00

DAS
05
9-89 11-12-10

160

Spray Painting per QSI005 4.2

0.00

160

SprayPaint

Spray Painting

Memo

0.00

PRIME AS PER DWG, SEE NOTE #4

PRIMER BATCH: 123693

10 0 0 0 12-12-15

NCR: Yes / No

DQA: Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order ID 92773

November-07-12 1:22:49 PM

92773

Page 4

Item ID: 646.3314

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Blade

Stop

NS2

Start Date: 07/11/2012 Start Qty: 10.00

10

Cust Item ID:

Required Date: 21/11/2012 Req'd Qty: 10.00

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Customer:

Reference:

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:		Stop	*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170 *170* QC Quality Control	QC14- Inspect Spray Paint	0.00				10			DAS 05 9-89

180
180
Packaging
Packaging

Identify as per dwg & Stock Location: 139A

0.00

1361/9 (b)

Memo

0.00

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

190
190
QC
Quality Control

QC21- Final Inspection - Work Order Release

0.00

13/1/10 (D)

Memo

0.00

MF
13-01-09

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS				
Part No. _____	Rework <input type="checkbox"/>	Scrap <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>			
NCR No. _____	Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>			
	Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Finishing <input type="checkbox"/>	Composite <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>			
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									
FAULT CATEGORY									
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions					
				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Other					

Picklist Print

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Page 1

Work Order ID: 92773

92773

Parent Item: 646.3314

646 3314

Parent Item Name: Blade

Start Date: 07/11/2012

Required Date: 21/11/2012

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A NEW ISSUE 12/11/07 JFS VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MSTEEL-A2- B0.500X1.250		Purchased		No		100	f	20.8716	0.421	4.431579			

MSTFFI -A2-R0 500X1 250

AISI A2 TOOL STEEL BAR, 0.500 X 1.250

** JFC 2012-11-13

Location	Loc Qty	Loc Code
MAT	20.8715789	
→ 123250	20.8715789	44315

NCR: Yes / No

DQA: Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other				
Part No. _____											
NCR No. _____											
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
Bending	General			Grain	General			Ovalized	Pressure/Forced		
Centre Not Concentric to O/S	Bend	General			Hardware	General			Over/Under tolerance	Temperature/Cure	
Cracks	BOM/Route	General			Inspection Incomplete	General			Part Incorrect	Weld	
Crushed/Crimped.	Broken/Damaged	General			Instructions Incomplete/Unclear	General			Part Lost/Missing	Wrong Stock Pulled	
Cuffs	Burrs	General			Maintenance	General			Part Moved		
Heat Treat	Contamination	General			Mislabeled	General			Positioned Wrong		
Inspection Strip in Tube	Countersink	General			Misread	General			Power Loss/Surge		
Ripples in Bend	Cut Too Short	General			Offset	General					
Torque Waves in Extrusion	Drill Holes	General			Out of Calibration	General					
Turning Sequence	Drawing	General			Out of Sequence	General					
Wave/Twist in Tube	Finish	General			Outside Dimensions	General					
	Folio	General				General					

DART AEROSPACE LTD	Work Order:	92773
Description: BLADE	Part Number:	646.3314
Inspection Dwg: 646.3300 Rev: N/C		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

DAS

Measured by: mg 14
Date: 12/11/15

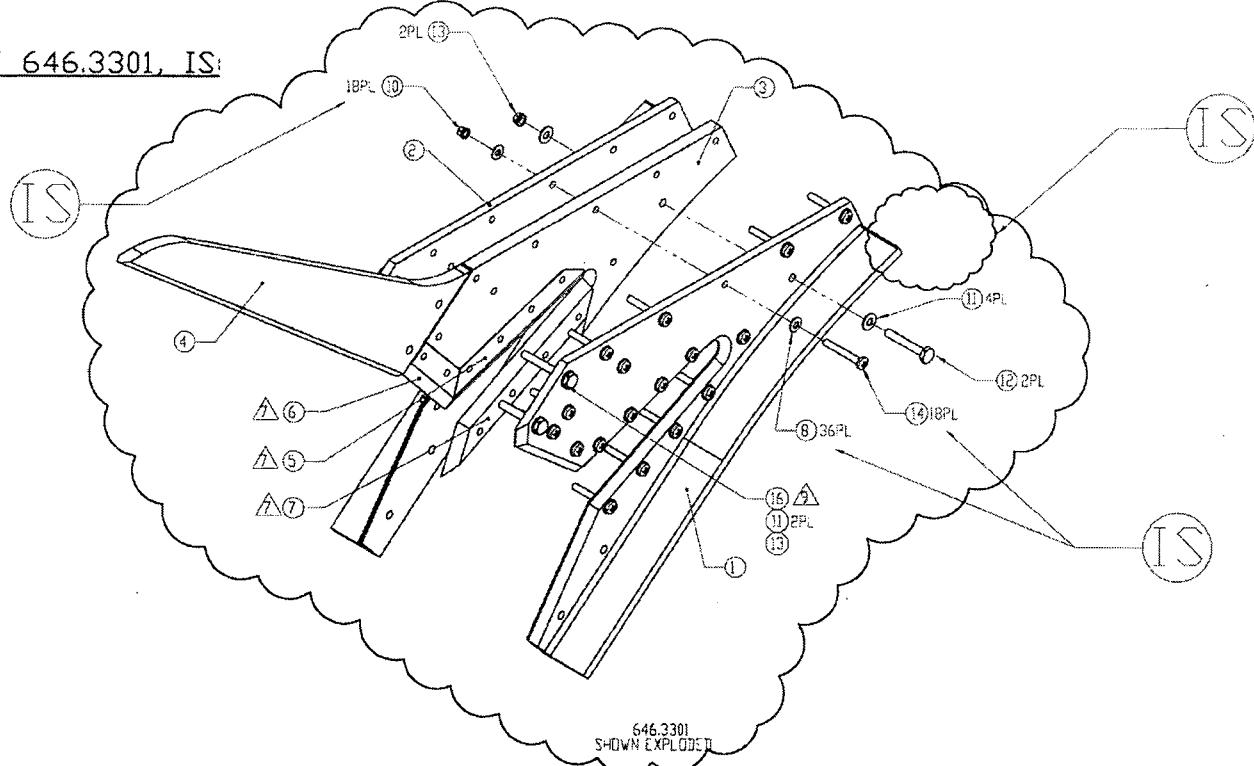
Audited by: J.A **08**
Date: 12/11/18

Preliminary Approval:	
Date:	

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 02196				SHEET 1 OF 2		
	DWG NO. 646.3300		REV: N/C	PREPARED BY S. HUFF	DATE: 01/05/09		EFFECT ON DWG
							<input type="checkbox"/> INC, <input checked="" type="checkbox"/> UNINC.
	DWG TITLE: UPPER CUTTER ASSY						
	APPROVED BY:	ENGR: <i>P. Brown</i>	MFG: <i>Paul Schubel</i>	QC: <i>S. S.</i>	EFF: NEXT ORDER		
	TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REMOVED RIVETS IN FAVOR OF ADDITIONAL SCREWS				

SHEET 1, VIEW 646.3301, IS:



SEARCHED ✓
SERIALIZED ✓
INDEXED ✓
ENGINEERED ✓
UNCONTROLLED ✓
SUBJECT TO AMENDMENT
WRITTEN BY: [Signature]
WORKED BY: [Signature]
NO. 92773 MCJ
12-11-07

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
14	R	601.2765	18	SCREW	MS27039-0819
10	R	601.1541	18	LOCKNUT	MS21042L08
9	D	601.2766	3	RIVET	MS20470AD5-18
8	R	601.2764	36	WASHER	NAS1149FN832P
			.3301		
DOCUMENTS EFFECTED:				CHANGE CATEGORY	DER REVIEW REQUIRED
<input type="checkbox"/> MDL <input checked="" type="checkbox"/> INSTALL INSTRUC <input checked="" type="checkbox"/> ICA <input type="checkbox"/> FMS <input checked="" type="checkbox"/> BOM				<input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

NCR: Yes / No

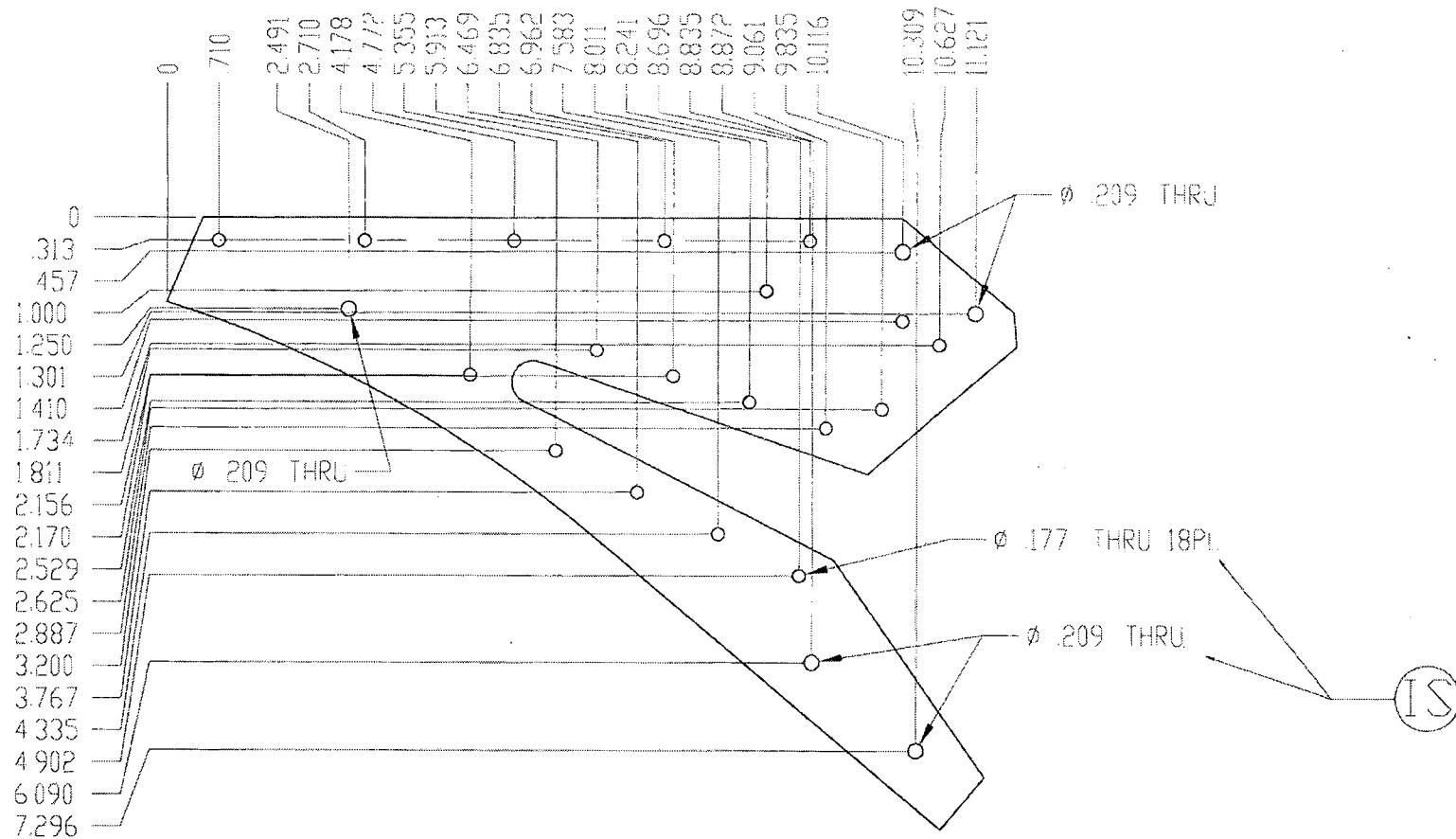
WORK ORDER NON-CONFORMANCE / UPDATE

DQA: Date:

QA Closed: _____ Date: _____

SHEET 3, SECTION VIEW A-A, IS:

92773



SECTION A-A

206

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS																	
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>																
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>																
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>																
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																	
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector												
Doc/Data																							
Equip/Tooling																							
Operator																							
Material																							
Setup																							
Other																							
Process																							
Supplier																							
Training																							
Unapproved																							
FAULT CATEGORY																							
Landing Gear				General																			
<input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				<input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio								<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled			
																				<input type="checkbox"/> Other			

1 2 3 4 5 6 7 8

1. ENSURE THAT ALL PARTS ARE ASSEMBLED IN THE CORRECT POSITION OF
2. ALL PARTS AND ASSEMBLIES ARE PREPARED FOR SHIP AND STORED
3. IN A DRY, DUST FREE, CLEAN ENVIRONMENT

4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16.

15PL (10) 2PL (13) 3PL (9) 4PL (11) 2PL (12) 15PL (14) 30PL (8) 2PL (16) 2PL (11) 2PL (13) 9 10 11 12 13 14 15 16

UNINCORPORATED ECN(s)
D2196

NOTES:

1. MATERIAL: ALUMINUM 7075-T651 PER AMS QQ-A-250/12

2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER PRIME IAW MIL-P-23377J TYPE I CLASS N

3. MATERIAL: AISI A2 TOOL STEEL CONDITION: ANNEALED POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS

4. FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N

5. DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED

6. IDENTIFY IAW MPP-120

7. APPLY F/N 15 AS REQUIRED TO ALL FAYING SURFACES OF F/N 5, 6 & 7 UPON ASSEMBLY

8. CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE

9. INSTALL FASTENER FINGER-TIGHT

646.3301 SHOWN EXPLODED

| QTY | FIND # | PART # | DESCRIPTION | MAF | SPEC. |
|-----|--------|--------|-------------------------|-----------|-------|
| | | | PARTS LIST | | |
| | | | NEXT ASSY (S) | | |
| | | | OPEN DATE | 05-22-08 | |
| | | | DRAWN BY | TECHNICAL | |
| | | | S HUB | BRAYO | |
| | | | DRAWING APPROVAL | 83 | |
| | | | CD-FACTORY | 05-22-08 | |
| | | | UPPER CUTTER ASSY | | |
| | | | DRAWING SPECIFICATIONS | | |
| | | | UNITS: INCHES | | |
| | | | CHAMFERS AND ROUNDS | | |
| | | | 2 PLACE DECIMALS +.01 | | |
| | | | 3 PLACE DECIMALS +.001 | | |
| | | | 4 PLACE DECIMALS +.0001 | | |
| | | | SCALE: NONE | | |
| | | | 3 SHEET | | |
| | | | 1 OF 5 | | |

92773

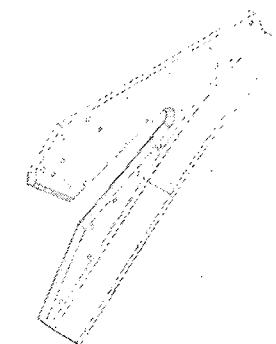
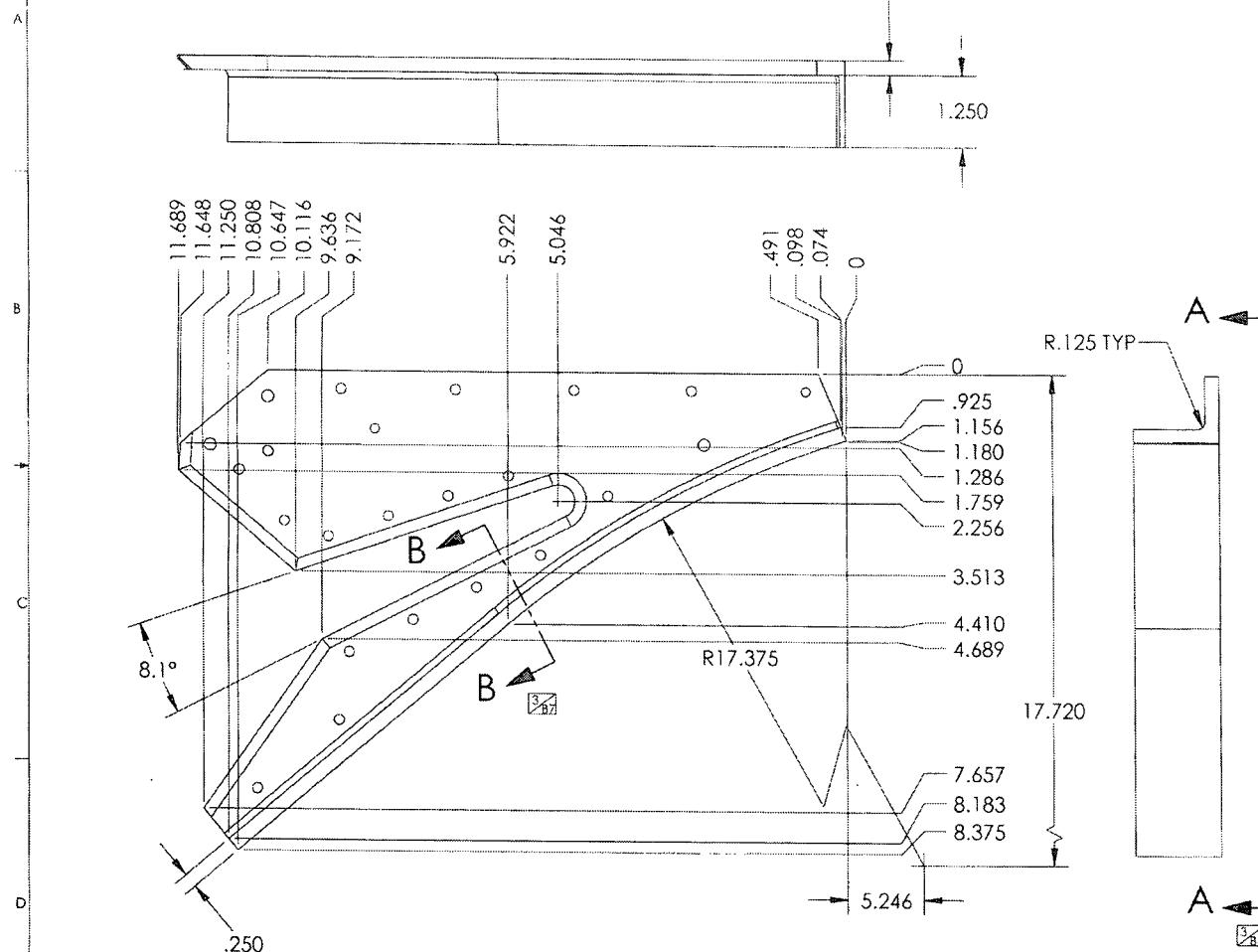
NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

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AMERICAN INDUSTRIES FOR PEACE OR WHOMSOEVER
HE MAY HAVE PERMITTED. USE OF THIS INFORMATION IS PROHIBITED.



646.3310 SHOWN
646.3311 OPPOSITE

| | |
|---|--|
| OPENED DATE
05-24-01
BY
S HUFF
P BRAVO | APICAL INDUSTRIES
2608 TEMPE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300 |
| DRAWINGS APPROVAL
P BRAVO | UPPER CUTTER ASSY |
| CONTRACT NO. | |
| UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
1 PLACE DECIMALS
2 PLACES DECIMALS #.01
3 PLACES DECIMALS #.001
4 PLACES DECIMALS #.0001 | REV
N/C |
| S/L CATCH CODE
B DTM6 | DATE NO.
646.3300 |
| SCALE: NONE | 1 SHEET 2 OF 2 |

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

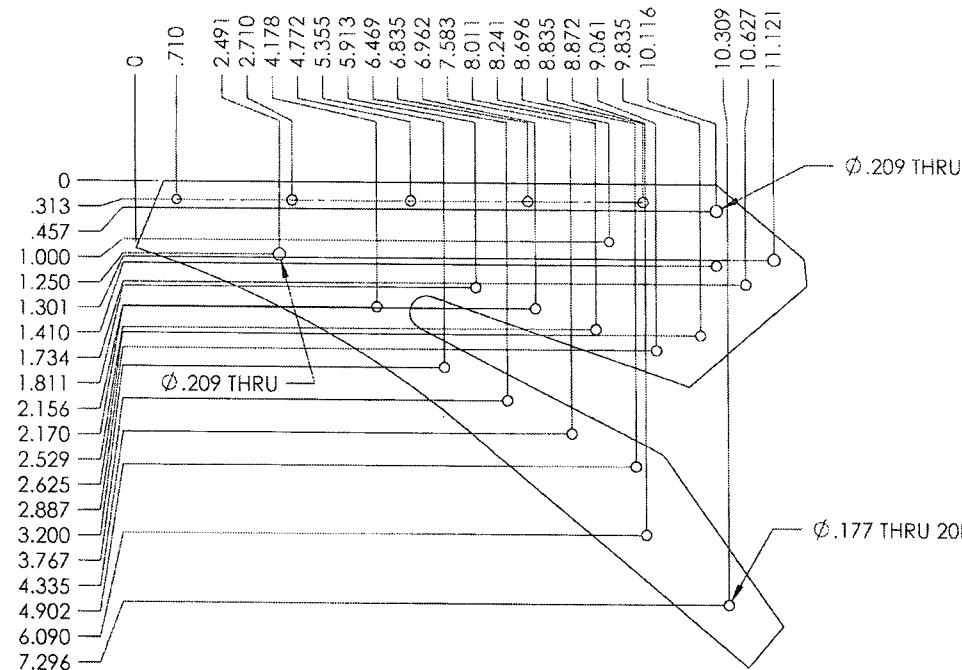
QA Closed: _____ Date: _____

| Work Order: _____ | | | DISPOSITION | | | AGAINST DEPARTMENT/PROCESS | | | | | | | | | | | | | | | | | |
|---|------|------|---|---|--|--|---------------------------------|--|-------------|--------------|--------------|---|--|--|--|--|--|--|--|---|--|--|--|
| | | | Rework
Scrap
Use-as-is
Work Order Update | Skid-tube
Machining
Thermoforming
Large Fab | Crosstube
Small Fab
Finishing
Composite | Water Jet
Prod. Eng. Coor.
Rec/Store/Packaging
Supplier | Engineering
Quality
Other | | | | | | | | | | | | | | | | |
| Part No. _____
NCR No. _____ | | | | | | | | | | | | | | | | | | | | | | | |
| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | | Initial Chief Eng | Action Description | | Sign & Date | Verification | QC Inspector | | | | | | | | | | | | |
| Doc/Data | | | | | | | | | | | | | | | | | | | | | | | |
| Equip/Tooling | | | | | | | | | | | | | | | | | | | | | | | |
| Operator | | | | | | | | | | | | | | | | | | | | | | | |
| Material | | | | | | | | | | | | | | | | | | | | | | | |
| Setup | | | | | | | | | | | | | | | | | | | | | | | |
| Other | | | | | | | | | | | | | | | | | | | | | | | |
| Process | | | | | | | | | | | | | | | | | | | | | | | |
| Supplier | | | | | | | | | | | | | | | | | | | | | | | |
| Training | | | | | | | | | | | | | | | | | | | | | | | |
| Unapproved | | | | | | | | | | | | | | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | | | | | | | | | | | | | | |
| Landing Gear | | | | General | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> Bending
<input type="checkbox"/> Centre Not Concentric to O/S
<input type="checkbox"/> Cracks
<input type="checkbox"/> Crushed/Crimped.
<input type="checkbox"/> Cuffs
<input type="checkbox"/> Heat Treat
<input type="checkbox"/> Inspection Strip in Tube
<input type="checkbox"/> Ripples in Bend
<input type="checkbox"/> Torque Waves in Extrusion
<input type="checkbox"/> Turning Sequence
<input type="checkbox"/> Wave/Twist in Tube | | | | <input type="checkbox"/> Bend
<input type="checkbox"/> BOM/Route
<input type="checkbox"/> Broken/Damaged
<input type="checkbox"/> Burrs
<input type="checkbox"/> Contamination
<input type="checkbox"/> Countersink
<input type="checkbox"/> Cut Too Short
<input type="checkbox"/> Drill Holes
<input type="checkbox"/> Drawing
<input type="checkbox"/> Finish
<input type="checkbox"/> Folio | | | | | | | | <input type="checkbox"/> Grain
<input type="checkbox"/> Hardware
<input type="checkbox"/> Inspection Incomplete
<input type="checkbox"/> Instructions Incomplete/Unclear
<input type="checkbox"/> Maintenance
<input type="checkbox"/> Mislabeled
<input type="checkbox"/> Misread
<input type="checkbox"/> Offset
<input type="checkbox"/> Out of Calibration
<input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Outside Dimensions | | | | <input type="checkbox"/> Ovalized
<input type="checkbox"/> Over/Under tolerance
<input type="checkbox"/> Part Incorrect
<input type="checkbox"/> Part Lost/Missing
<input type="checkbox"/> Part Moved
<input type="checkbox"/> Positioned Wrong
<input type="checkbox"/> Power Loss/Surge | | | | <input type="checkbox"/> Pressure/Forced
<input type="checkbox"/> Temperature/Cure
<input type="checkbox"/> Weld
<input type="checkbox"/> Wrong Stock Pulled | | | |
| | | | | | | | | | | | | | | | | | | | | <input type="checkbox"/> Other | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |

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92773

A



B

SECTION B-B

C

D

| | | |
|---|-----------|---|
| ORIGINAL DATE | 09-20-08 | APICAL INDUSTRIES |
| DRAWN BY | J. HUEY | 2608 TEMPLE HEIGHTS DR. |
| 3 HOURS | ERAVO | OCEANSIDE, CA. 92055-3512 (760)724-5300 |
| DRAWING APPROVAL | | |
| CONTRACTS | | |
| UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
2 PLACE DECIMALS ± .01
3 PLACE DECIMALS ± .001
4 PLACE DECIMALS ± .0001
CNC ± .001 | | |
| REV | | |
| WT | CAGE CODE | ENG. NO. |
| B | 07M26 | 646.3300 |
| SCALE | INCHES | 1 SHEET 3 OF 6 |

UPPER CUTTER ASSY

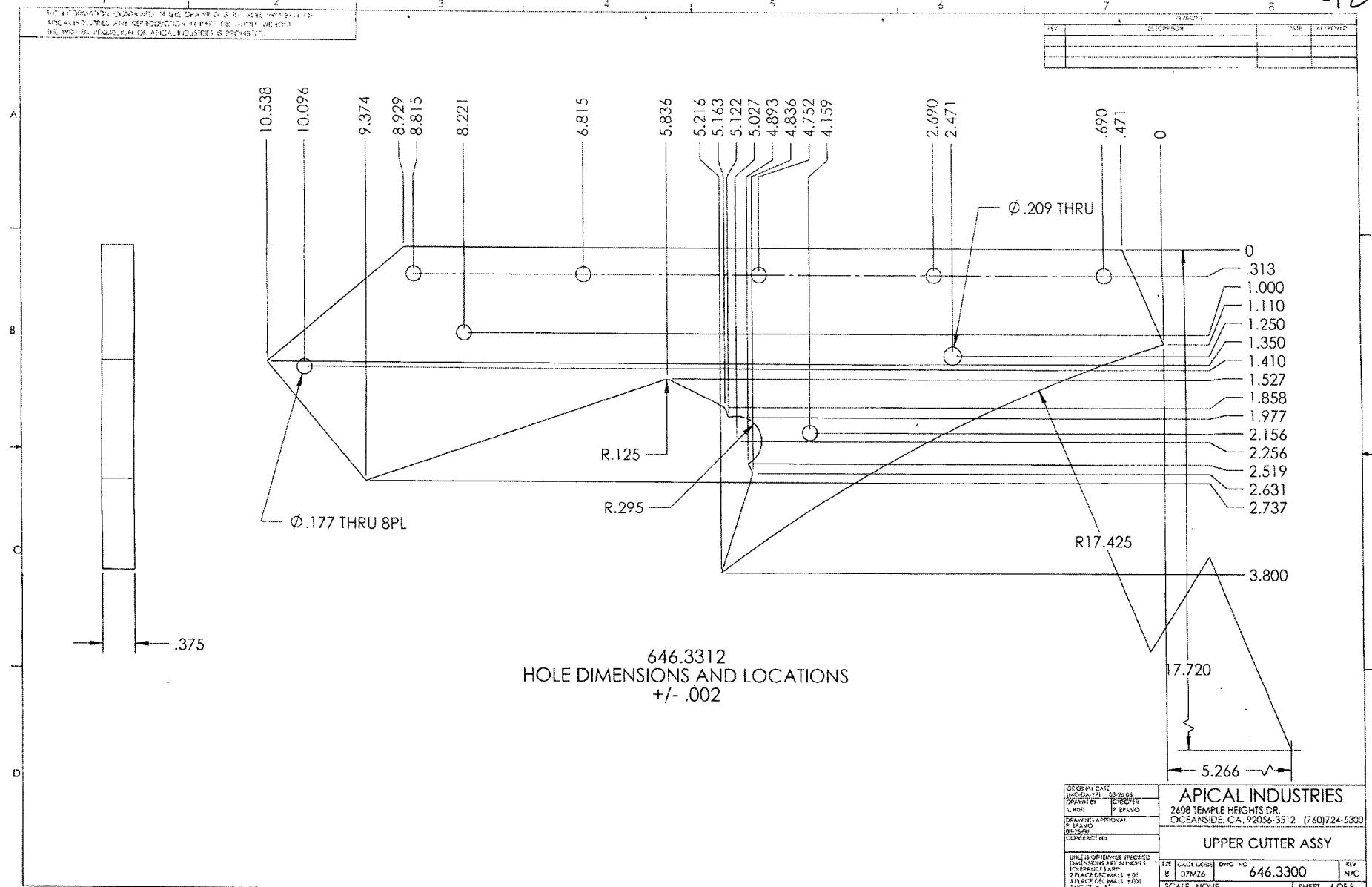
NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: Date:

QA Closed: _____ Date: _____

| | | | | | | | | | | | |
|--|--|------|------|--|--|---|---|---------------------------------|-------------|--------------|--------------|
| Work Order: _____
Part No. _____
NCR No. _____ | | | | DISPOSITION | | AGAINST DEPARTMENT/PROCESS | | | | | |
| | | | | Rework
Scrap
Use-as-is
Work Order Update | Skid-tube
Machining
Thermoforming
Large Fab | Crosstube
Small Fab
Finishing
Composite | Water Jet
Prod. Eng. Coor.
Rec/Store/Packaging
Supplier | Engineering
Quality
Other | | | |
| Root Cause | | Date | Step | Qty | Description of work order update or Non-conformance | | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
| Doc/Data | | | | | | | | | | | |
| Equip/Tooling | | | | | | | | | | | |
| Operator | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| Setup | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| Process | | | | | | | | | | | |
| Supplier | | | | | | | | | | | |
| Training | | | | | | | | | | | |
| Unapproved | | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | | |
| Landing Gear
Bending
Centre Not Concentric to O/S
Cracks
Crushed/Crimped.
Cuffs
Heat Treat
Inspection Strip in Tube
Ripples in Bend
Torque Waves in Extrusion
Turning Sequence
Wave/Twist in Tube | | | | General | | | | | | | |
| | | | | Bend
BOM/Route
Broken/Damaged
Burrs
Contamination
Countersink
Cut Too Short
Drill Holes
Drawing
Finish
Folio | Grain
Hardware
Inspection Incomplete
Instructions Incomplete/Unclear
Maintenance
Mislabeled
Misread
Offset
Out of Calibration
Out of Sequence
Outside Dimensions | Ovalized
Over/Under tolerance
Part Incorrect
Part Lost/Missing
Part Moved
Positioned Wrong
Power Loss/Surge | Pressure/Forced
Temperature/Cure
Weld
Wrong Stock Pulled | | | | |
| Other | | | | | | | | | | | |



NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: Date:

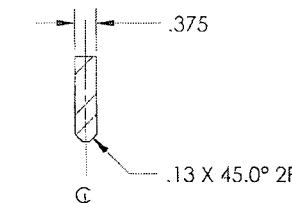
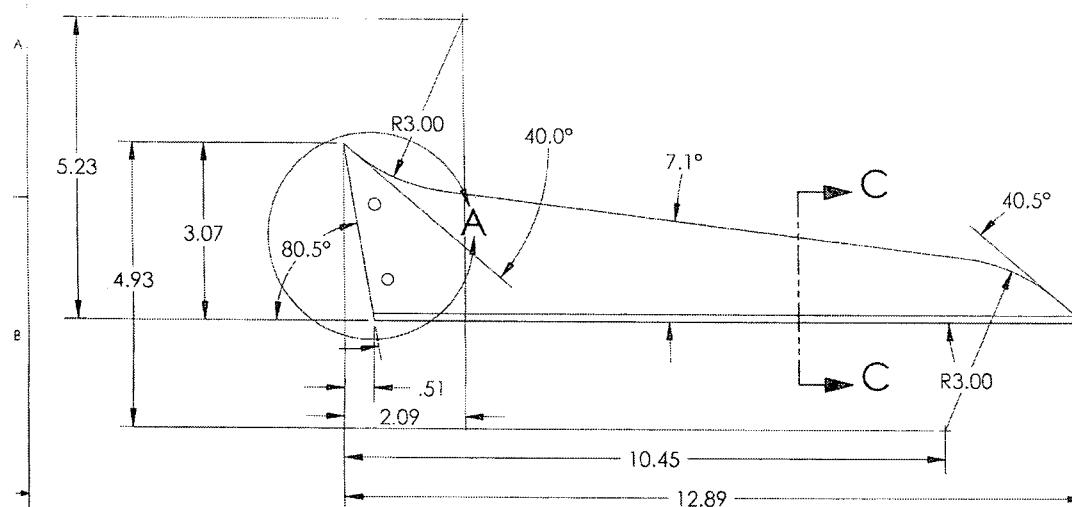
QA Closed: _____ Date: _____

| Work Order: _____ | | | | DISPOSITION | | AGAINST DEPARTMENT/PROCESS | | | | | |
|--|--------------------------|------|------|---|--|--|--|---|--------------|--------------|--|
| | | | | Rework
<input type="checkbox"/>
Scrap
<input type="checkbox"/>
Use-as-is
<input type="checkbox"/>
Work Order Update
<input type="checkbox"/> | Skid-tube
<input type="checkbox"/>
Machining
<input type="checkbox"/>
Thermoforming
<input type="checkbox"/>
Large Fab
<input type="checkbox"/> | Crosstube
<input type="checkbox"/>
Small Fab
<input type="checkbox"/>
Finishing
<input type="checkbox"/>
Composite
<input type="checkbox"/> | Water Jet
<input type="checkbox"/>
Prod. Eng. Coor.
<input type="checkbox"/>
Rec/Store/Packaging
<input type="checkbox"/>
Supplier
<input type="checkbox"/> | Engineering
<input type="checkbox"/>
Quality
<input type="checkbox"/>
Other
<input type="checkbox"/> | | | |
| Part No. _____ | | | | | | | | | | | |
| NCR No. _____ | | | | | | | | | | | |
| Root Cause | | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector | |
| Doc/Data | <input type="checkbox"/> | | | | | | | | | | |
| Equip/Tooling | <input type="checkbox"/> | | | | | | | | | | |
| Operator | <input type="checkbox"/> | | | | | | | | | | |
| Material | <input type="checkbox"/> | | | | | | | | | | |
| Setup | <input type="checkbox"/> | | | | | | | | | | |
| Other | <input type="checkbox"/> | | | | | | | | | | |
| Process | <input type="checkbox"/> | | | | | | | | | | |
| Supplier | <input type="checkbox"/> | | | | | | | | | | |
| Training | <input type="checkbox"/> | | | | | | | | | | |
| Unapproved | <input type="checkbox"/> | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | | |
| Landing Gear | | | | General | | | | | | | |
| Bending
Centre Not Concentric to O/S
Cracks
Crushed/Crimped.
Cuffs
Heat Treat
Inspection Strip in Tube
Ripples in Bend
Torque Waves in Extrusion
Turning Sequence
Wave/Twist in Tube | | | | Bend
<input type="checkbox"/>
BOM/Route
<input type="checkbox"/>
Broken/Damaged
<input type="checkbox"/>
Burrs
<input type="checkbox"/>
Contamination
<input type="checkbox"/>
Countersink
<input type="checkbox"/>
Cut Too Short
<input type="checkbox"/>
Drill Holes
<input type="checkbox"/>
Drawing
<input type="checkbox"/>
Finish
<input type="checkbox"/>
Folio
<input type="checkbox"/>
Grain
<input type="checkbox"/>
Hardware
<input type="checkbox"/>
Inspection Incomplete
<input type="checkbox"/>
Instructions Incomplete/Unclear
<input type="checkbox"/>
Maintenance
<input type="checkbox"/>
Mislabeled
<input type="checkbox"/>
Misread
<input type="checkbox"/>
Offset
<input type="checkbox"/>
Out of Calibration
<input type="checkbox"/>
Out of Sequence
<input type="checkbox"/>
Outside Dimensions
<input type="checkbox"/>
Ovalized
<input type="checkbox"/>
Over/Under tolerance
<input type="checkbox"/>
Part Incorrect
<input type="checkbox"/>
Part Lost/Missing
<input type="checkbox"/>
Part Moved
<input type="checkbox"/>
Positioned Wrong
<input type="checkbox"/>
Power Loss/Surge
<input type="checkbox"/>
Pressure/Forced
<input type="checkbox"/>
Temperature/Cure
<input type="checkbox"/>
Weld
<input type="checkbox"/>
Wrong Stock Pulled
<input type="checkbox"/>
Other
<input type="checkbox"/> | | | | | | | |

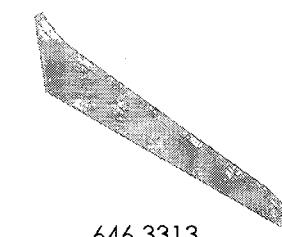
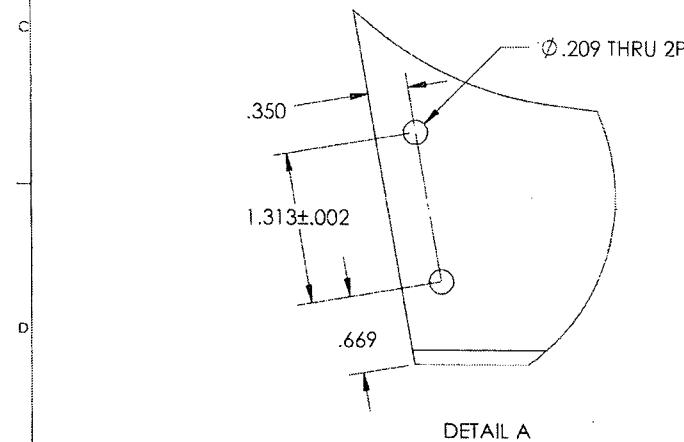
92773

2
APR 16 1945 COMMUNIST AND PROGRESSIVE
PARTIES ARE REPRODUCED IN PART, WHILE WITHOUT
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| | | |
|------------|-------------|---------|
| 7 | 1 | 8 |
| FEB 6 2005 | | |
| 721 | DESCRIPTION | 2005 |
| | | 4399-14 |



SECTION C-



646.331

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

| Work Order: _____ | | DISPOSITION | | AGAINST DEPARTMENT/PROCESS | | | | | | | | | | | |
|--|------|--|--|---|--|---|-------------|--------------|--------------|--|--|---|--|--------------------------------|--|
| Part No. _____ | | Rework <input type="checkbox"/> | Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | | | | | | | | | |
| NCR No. _____ | | Scrap <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coor. <input type="checkbox"/> | Quality <input type="checkbox"/> | | | | | | | | | |
| | | Use-as-is <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | | | |
| | | Work Order Update <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | | | | | | | | | | |
| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector | | | | | | |
| Doc/Data | | | | | | | | | | | | | | | |
| Equip/Tooling | | | | | | | | | | | | | | | |
| Operator | | | | | | | | | | | | | | | |
| Material | | | | | | | | | | | | | | | |
| Setup | | | | | | | | | | | | | | | |
| Other | | | | | | | | | | | | | | | |
| Process | | | | | | | | | | | | | | | |
| Supplier | | | | | | | | | | | | | | | |
| Training | | | | | | | | | | | | | | | |
| Unapproved | | | | | | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | | | | | | |
| Landing Gear
<input type="checkbox"/> Bending
<input type="checkbox"/> Centre Not Concentric to O/S
<input type="checkbox"/> Cracks
<input type="checkbox"/> Crushed/Crimped.
<input type="checkbox"/> Cuffs
<input type="checkbox"/> Heat Treat
<input type="checkbox"/> Inspection Strip in Tube
<input type="checkbox"/> Ripples in Bend
<input type="checkbox"/> Torque Waves in Extrusion
<input type="checkbox"/> Turning Sequence
<input type="checkbox"/> Wave/Twist in Tube | | | | General
<input type="checkbox"/> Bend
<input type="checkbox"/> BOM/Route
<input type="checkbox"/> Broken/Damaged
<input type="checkbox"/> Burrs
<input type="checkbox"/> Contamination
<input type="checkbox"/> Countersink
<input type="checkbox"/> Cut Too Short
<input type="checkbox"/> Drill Holes
<input type="checkbox"/> Drawing
<input type="checkbox"/> Finish
<input type="checkbox"/> Folio | | <input type="checkbox"/> Grain
<input type="checkbox"/> Hardware
<input type="checkbox"/> Inspection Incomplete
<input type="checkbox"/> Instructions Incomplete/Unclear
<input type="checkbox"/> Maintenance
<input type="checkbox"/> Mislabeled
<input type="checkbox"/> Misread
<input type="checkbox"/> Offset
<input type="checkbox"/> Out of Calibration
<input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Outside Dimensions | | | | <input type="checkbox"/> Ovalized
<input type="checkbox"/> Over/Under tolerance
<input type="checkbox"/> Part Incorrect
<input type="checkbox"/> Part Lost/Missing
<input type="checkbox"/> Part Moved
<input type="checkbox"/> Positioned Wrong
<input type="checkbox"/> Power Loss/Surge | | <input type="checkbox"/> Pressure/Forced
<input type="checkbox"/> Temperature/Cure
<input type="checkbox"/> Weld
<input type="checkbox"/> Wrong Stock Pulled | | | |
| | | | | | | | | | | | | | | <input type="checkbox"/> Other | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

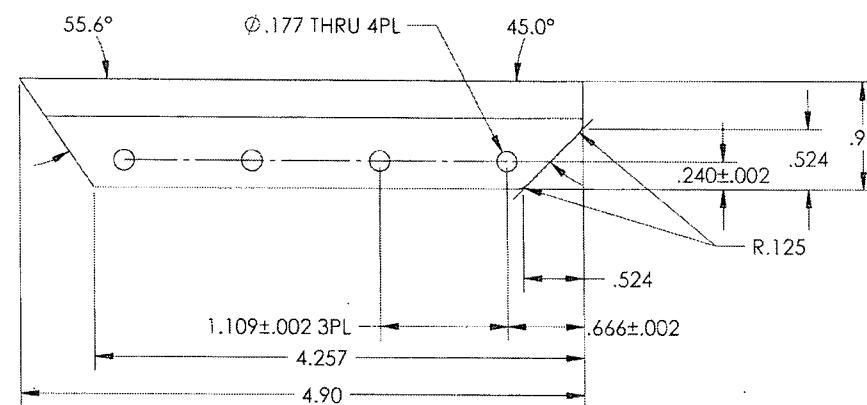
2
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| | | |
|-------------|--------|---------------|
| ITEM NO. | 3 | 9 |
| ITEM | PISTON | |
| DESCRIPTION | | DATE APPROVED |

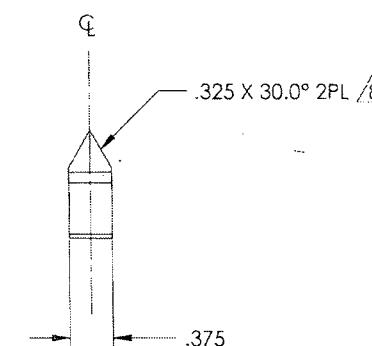
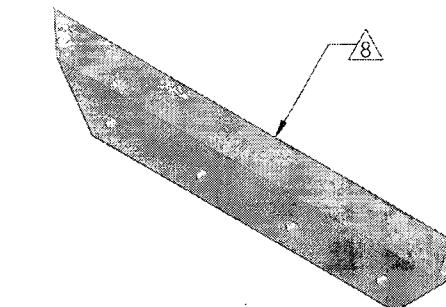
92773

6

8



646.3314



NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

| Work Order: _____ | | | DISPOSITION | | | AGAINST DEPARTMENT/PROCESS | | | | | |
|-------------------|------|------|---|--|--|---|--|--|--------------|--------------|--|
| | | | Rework
<input type="checkbox"/> | Skid-tube
<input type="checkbox"/> | Crosstube
<input type="checkbox"/> | Water Jet
<input type="checkbox"/> | Engineering
<input type="checkbox"/> | | | | |
| | | | Scrap
<input type="checkbox"/> | Machining
<input type="checkbox"/> | Small Fab
<input type="checkbox"/> | Prod. Eng. Coor.
<input type="checkbox"/> | Quality
<input type="checkbox"/> | | | | |
| | | | Use-as-is
<input type="checkbox"/> | Thermoforming
<input type="checkbox"/> | Finishing
<input type="checkbox"/> | Rec/Store/Packaging
<input type="checkbox"/> | Other
<input type="checkbox"/> | | | | |
| | | | Work Order Update
<input type="checkbox"/> | Large Fab
<input type="checkbox"/> | Composite
<input type="checkbox"/> | Supplier
<input type="checkbox"/> | | | | | |
| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector | |
| Doc/Data | | | | | | | | | | | |
| Equip/Tooling | | | | | | | | | | | |
| Operator | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| Setup | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| Process | | | | | | | | | | | |
| Supplier | | | | | | | | | | | |
| Training | | | | | | | | | | | |
| Unapproved | | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | | |
| Landing Gear | | | | General | | | | | | | |
| | | | | Bending
<input type="checkbox"/> | Bend
<input type="checkbox"/> | Grain
<input type="checkbox"/> | Ovalized
<input type="checkbox"/> | Pressure/Forced
<input type="checkbox"/> | | | |
| | | | | Centre Not Concentric to O/S
<input type="checkbox"/> | BOM/Route
<input type="checkbox"/> | Hardware
<input type="checkbox"/> | Over/Under tolerance
<input type="checkbox"/> | Temperature/Cure
<input type="checkbox"/> | | | |
| | | | | Cracks
<input type="checkbox"/> | Broken/Damaged
<input type="checkbox"/> | Inspection Incomplete
<input type="checkbox"/> | Part Incorrect
<input type="checkbox"/> | Weld
<input type="checkbox"/> | | | |
| | | | | Crushed/Crimped.
<input type="checkbox"/> | Burrs
<input type="checkbox"/> | Instructions Incomplete/Unclear
<input type="checkbox"/> | Part Lost/Missing
<input type="checkbox"/> | Wrong Stock Pulled
<input type="checkbox"/> | | | |
| | | | | Cuffs
<input type="checkbox"/> | Contamination
<input type="checkbox"/> | Maintenance
<input type="checkbox"/> | Part Moved
<input type="checkbox"/> | | | | |
| | | | | Heat Treat
<input type="checkbox"/> | Countersink
<input type="checkbox"/> | Mislabeled
<input type="checkbox"/> | Positioned Wrong
<input type="checkbox"/> | | | | |
| | | | | Inspection Strip in Tube
<input type="checkbox"/> | Cut Too Short
<input type="checkbox"/> | Misread
<input type="checkbox"/> | Power Loss/Surge
<input type="checkbox"/> | Other
<input type="checkbox"/> | | | |
| | | | | Ripples in Bend
<input type="checkbox"/> | Drill Holes
<input type="checkbox"/> | Offset
<input type="checkbox"/> | | | | | |
| | | | | Torque Waves in Extrusion
<input type="checkbox"/> | Drawing
<input type="checkbox"/> | Out of Calibration
<input type="checkbox"/> | | | | | |
| | | | | Turning Sequence
<input type="checkbox"/> | Finish
<input type="checkbox"/> | Out of Sequence
<input type="checkbox"/> | | | | | |
| | | | | Wave/Twist in Tube
<input type="checkbox"/> | Folio
<input type="checkbox"/> | Outside Dimensions
<input type="checkbox"/> | | | | | |

1 2
APICAL INDUSTRIES INC. 2 CHANNEL CUTTER ASSY. 646.3300
APICAL INDUSTRIES INC. 2 CHANNEL CUTTER ASSY. 646.3300
APICAL INDUSTRIES INC. 2 CHANNEL CUTTER ASSY. 646.3300
APICAL INDUSTRIES INC. 2 CHANNEL CUTTER ASSY. 646.3300

3 4 5

6 7 8
APICAL INDUSTRIES INC. 2 CHANNEL CUTTER ASSY. 646.3300
APICAL INDUSTRIES INC. 2 CHANNEL CUTTER ASSY. 646.3300
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APICAL INDUSTRIES INC. 2 CHANNEL CUTTER ASSY. 646.3300

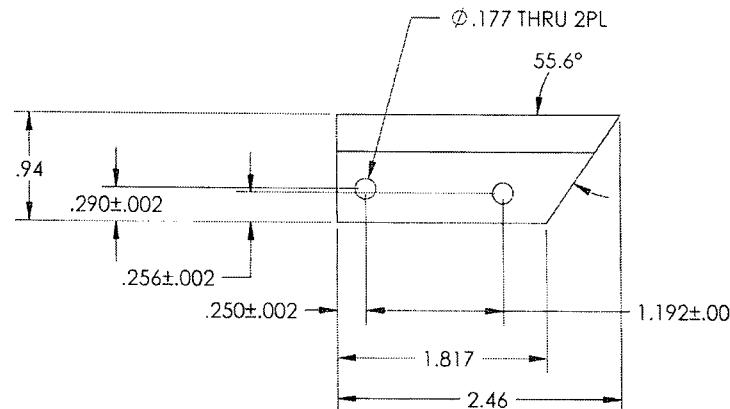
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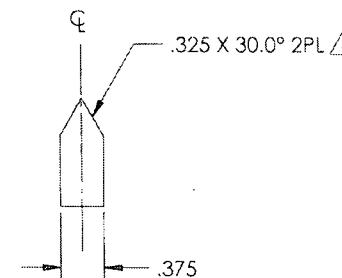
B

C

D



646.3315



| | |
|--|------------------------|
| DRAWN BY | CHICHESTER |
| DATE DRAWN | 08-10-98 |
| DRAWN BY | P. BRAVO |
| DATE APPROVED | 08-10-98 |
| APICAL INDUSTRIES INC. | APICAL INDUSTRIES INC. |
| UPPER CUTTER ASSY | |
| TOLERANCES NOT OTHERWISE SPECIFIED
ALL HOLE ARE ANGLED
LEAD-IN ANGLES 30°
TOLERANCES NOT OTHERWISE SPECIFIED
ALL HOLE ARE ANGLED
LEAD-IN ANGLES 30° | |
| REF | 646.3300 |
| REV | N/C |
| SCALE | 1:1 |
| SH. NO. | 7 OF 8 |

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

| Work Order: _____ | | | DISPOSITION | | AGAINST DEPARTMENT/PROCESS | | | | | |
|------------------------------|-------------------|---|--|--|------------------------------------|---|--------------------------------------|---|--------------|--------------|
| Part No. _____ | Work Order: _____ | Part No. _____ | Rework <input type="checkbox"/> | Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | | | |
| NCR No. _____ | Part No. _____ | NCR No. _____ | Scrap <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coor. <input type="checkbox"/> | Quality <input type="checkbox"/> | | | |
| | | | Use-as-is <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | |
| | | | Work Order Update <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | | | | |
| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
| Doc/Data | | | | | | | | | | |
| Equip/Tooling | | | | | | | | | | |
| Operator | | | | | | | | | | |
| Material | | | | | | | | | | |
| Setup | | | | | | | | | | |
| Other | | | | | | | | | | |
| Process | | | | | | | | | | |
| Supplier | | | | | | | | | | |
| Training | | | | | | | | | | |
| Unapproved | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | |
| Landing Gear | | | | General | | | | | | |
| Bending | | Bend <input type="checkbox"/> | | Grain <input type="checkbox"/> | | Ovalized <input type="checkbox"/> | | Pressure/Forced <input type="checkbox"/> | | |
| Centre Not Concentric to O/S | | BOM/Route <input type="checkbox"/> | | Hardware <input type="checkbox"/> | | Over/Under tolerance <input type="checkbox"/> | | Temperature/Cure <input type="checkbox"/> | | |
| Cracks | | Broken/Damaged <input type="checkbox"/> | | Inspection Incomplete <input type="checkbox"/> | | Part Incorrect <input type="checkbox"/> | | Weld <input type="checkbox"/> | | |
| Crushed/Crimped. | | Burrs <input type="checkbox"/> | | Instructions Incomplete/Unclear <input type="checkbox"/> | | Part Lost/Missing <input type="checkbox"/> | | Wrong Stock Pulled <input type="checkbox"/> | | |
| Cuffs | | Contamination <input type="checkbox"/> | | Maintenance <input type="checkbox"/> | | Part Moved <input type="checkbox"/> | | | | |
| Heat Treat | | Countersink <input type="checkbox"/> | | Mislabeled <input type="checkbox"/> | | Positioned Wrong <input type="checkbox"/> | | | | |
| Inspection Strip in Tube | | Cut Too Short <input type="checkbox"/> | | Misread <input type="checkbox"/> | | Power Loss/Surge <input type="checkbox"/> | | | | |
| Ripples in Bend | | Drill Holes <input type="checkbox"/> | | Offset <input type="checkbox"/> | | | | Other <input type="checkbox"/> | | |
| Torque Waves in Extrusion | | Drawing <input type="checkbox"/> | | Out of Calibration <input type="checkbox"/> | | | | | | |
| Turning Sequence | | Finish <input type="checkbox"/> | | Out of Sequence <input type="checkbox"/> | | | | | | |
| Wave/Twist in Tube | | Folio <input type="checkbox"/> | | Outside Dimensions <input type="checkbox"/> | | | | | | |

1. 100% INSPECTION
2. 100% INSPECTION
3. 100% INSPECTION
4. 100% INSPECTION
5. 100% INSPECTION
6. 100% INSPECTION
7. 100% INSPECTION
8. 100% INSPECTION

A

B

C

D

3

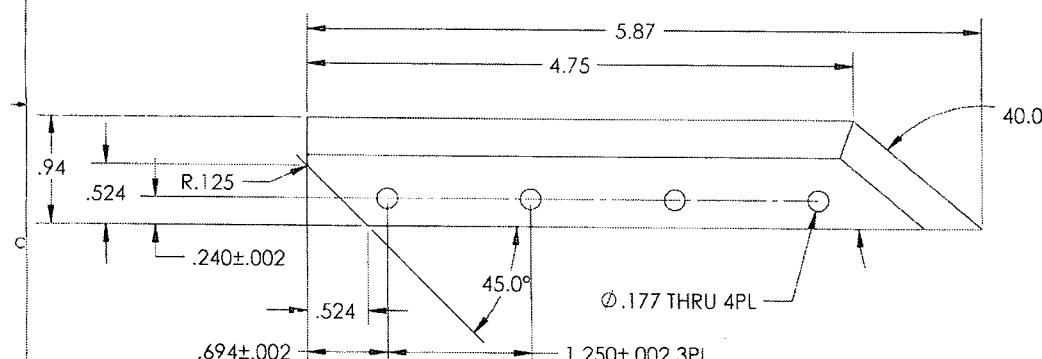
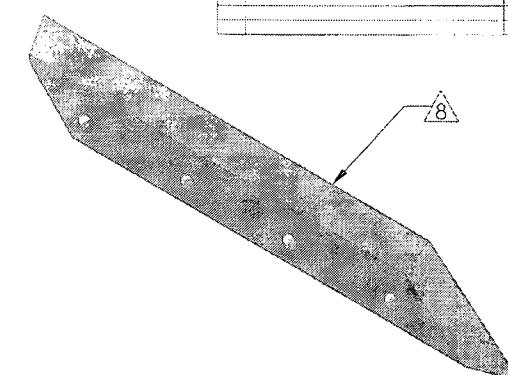
4

5

6

7

8



646.3316

| | |
|---|--|
| CHART DATE | 08-25-08 |
| DRAWN BY | SCHECHER |
| SUPERVISED BY | P. BRAVO |
| SPONSOR APPROVAL | APICAL INDUSTRIES |
| REVIEWED BY | APICAL INDUSTRIES |
| CONTRACT NO. | APICAL INDUSTRIES |
| 1. INCHES CHARTS ARE INCHES
2. DRAWINGS ARE INCHES
3. PLACE DECIMALS .000
4. PLACE DECIMALS .000
5. PLACE DECIMALS .000 | 2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300 |
| B | 646.3300 |
| SCALE | 1:1 |
| REV | N/C |
| 1 SHEET | 8 OF 8 |

NCR: Yes / No

DQA: Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

| | | | | | | | | | | | |
|---|--|------|------|---|--|--|--|---|-------------|--|--------------|
| Work Order: _____
Part No. _____
NCR No. _____ | | | | DISPOSITION | | AGAINST DEPARTMENT/PROCESS | | | | | |
| | | | | Rework
Scrap
Use-as-is
Work Order Update | Skid-tube
Machining
Thermoforming
Large Fab | Crosstube
Small Fab
Finishing
Composite | Water Jet
Prod. Eng. Coor.
Rec/Store/Packaging
Supplier | Engineering
Quality
Other | | | |
| Root Cause | | Date | Step | Qty | Description of work order update or Non-conformance | | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
| Doc/Data
Equip/Tooling
Operator
Material
Setup
Other
Process
Supplier
Training
Unapproved | | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | | |
| Landing Gear
Bending
Centre Not Concentric to O/S
Cracks
Crushed/Crimped
Cuffs
Heat Treat
Inspection Strip in Tube
Ripples in Bend
Torque Waves in Extrusion
Turning Sequence
Wave/Twist in Tube | | | | General
Bend
BOM/Route
Broken/Damaged
Burrs
Contamination
Countersink
Cut Too Short
Drill Holes
Drawing
Finish
Folio | | Grain
Hardware
Inspection Incomplete
Instructions Incomplete/Unclear
Maintenance
Mislabeled
Misread
Offset
Out of Calibration
Out of Sequence
Outside Dimensions | | Ovalized
Over/Under tolerance
Part Incorrect
Part Lost/Missing
Part Moved
Positioned Wrong
Power Loss/Surge | | Pressure/Forced
Temperature/Cure
Weld
Wrong Stock Pulled
Other | |



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO18452**

Purchase Order Date 11/20/12
PO Print Date 11/20/12

Page Number 1 of 2

Order From : VC-MET004

METCOR INC.
560 BOUL. ARTHUR SAUVE
SAINT-EUSTACHE, QC J7R 5A8
CA

| | | |
|--------------------|-----------------|---------------------|
| Contact Name | Buyer | Chantal Lavoie |
| Vendor Phone | Requisition Nbr | |
| Vendor Fax | Tax Resale Nbr | 10127-2607 |
| Vendor Account Nbr | Terms | Net 30 |
| | Currency | CAD |
| | FOB | Destination-Collect |

Ship To : DART AEROSPACE LTD 1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED
11/20/12

| Line Nbr | Reference
Revision ID | Description/
Mfg ID | Req Date/
Taxable | Req Qty/
Unit of Measure | Ship Method | Unit Price | Extended
Price |
|----------|--------------------------|------------------------|----------------------|-----------------------------|------------------|------------|-------------------|
| 1 | 92773 | 646.3314 BLADE | 12/07/12
Yes | 10.00 | FedEx PI collect | \$10.0000 | \$100.00 |

Special Inst: MATERIAL: AISI A2 TOOL STEEL
CONDITION ANNEALED

HEAT TREAT TO 58-62 RC ROCKWELL
HARDNESS

DETAIL C OF C REQUIRED

| | | | | | | | |
|---|-------|----------------|-----------------|-------|------------------|-----------|----------|
| 2 | 92774 | 646.3315 BLADE | 12/07/12
Yes | 10.00 | FedEx PI collect | \$10.0000 | \$100.00 |
|---|-------|----------------|-----------------|-------|------------------|-----------|----------|

Special Inst: MATERIAL: AISI-A2 TOOL STEEL
CONDITION ANNEALED

HEAT TREAT TO 58-62 RC ROCKWELL
HARDNESS

DETAIL C OF C REQUIRED

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required - YES *YES* NO

Change Nbr: 1

Change Date: 11/20/12

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Recu de Livraison

| Order | Shipper | Shipping Seq. |
|--------|---------|---------------|
| 181377 | 1 | 66593 |

Shipped Complete

Customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

Shipped To:

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

| Purchase Order Number | Customer Shipper No. | Material Type | Order Date | Carrier |
|-----------------------|----------------------|---------------|------------|---------|
| PO18452 | | A2 | 2012/11/21 | PURO |

| Quantity | Part No. / Part Name / Part Description | Pounds |
|----------|---|--------|
|----------|---|--------|

30 646.3314 BLADE 9,

(10) RÉFÉRENCE 92773

MATERIAL: AISI A2 TOOL STEEL

(10) 646.3315 BLADE

REFERENCE 92774

MATERIAL: AISI A2 TOOL STEEL

(10) 646.3316 BLADE

RÉFÉRENCE 92775

MATERIAL: AISI A2 TOOL STEEL

CONTENANT: 1 BOÎTE DE CARTON

| Container Type | # Of Containers | Container Comments |
|-----------------|-----------------|--------------------|
| BOITE DE CARTON | 1 | |

CERTIFICAT

| | |
|---------|--|
| PACKING | |
|---------|--|

Quantity Shipped: 30

Pounds Shipped: 9,00

Quantity Remaining: 0

Pounds Remaining: 0,00

CERTIFICAT

Quantity Shipped: 30

Pounds Shipped: 9,00

Signature:

Date:

Shipped ON: 2012/11/26



Metcor Inc.

560, boul. Arthur-Sauvé, St-Eustache (Québec) J7R 5A8

Tél. 450 473-1884

Télécopieur/Fax administration 450 491-5498

Télécopieur/Fax production 450 491-6454

Page 1 / 1

Certificat de Conformité Certificate of Compliance

| BON DE TRAVAIL
order | CHARGEMENT
load |
|-------------------------|--------------------|
| 181377 | 1 |

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

| COMMANDE DU CLIENT
customer po | BON DE LIVRAISON DU CLIENT
customer shipper no. | MATÉRIEL
material | CODE DE TRAITEMENT
mat'l heat code | NUMÉRO DE LOT
lot number |
|-----------------------------------|--|----------------------|---------------------------------------|-----------------------------|
| PO18452 | | A2 | | |

SPÉCIFICATIONS DU PROCÉDÉ

processing specifications

VAC HARDEN

HARDEN AND TEMPER

| EXIGENCE / requirement | SPÉCIFICATIONS / specified | TESTS EXÉCUTÉS / performed | RÉSULTATS DE TESTS / results |
|------------------------|----------------------------|----------------------------|------------------------------|
| HARDNESS | 58 - 62 HRC | 5 | 60.0 - 61.0 HRC |

| QUANTITÉ
quantity | POIDS
weight | DESCRIPTION DES PIÈCES
parts description |
|----------------------|-----------------|---|
| 30 | 9 | <p>646.3314 BLADE
(10) RÉFÉRENCE 92773
MATERIAL: AISI A2 TOOL STEEL</p> <p>(10) 646.3315 BLADE
REFERENCE 92774
MATERIAL: AISI A2 TOOL STEEL</p> <p>(10) 646.3318 BLADE
RÉFÉRENCE 92775
MATERIAL: AISI A2 TOOL STEEL</p> <p>CONTENANT: 1 BOÎTE DE CARTON</p> |

COMMENTAIRES / comments

CERTIFIÉ par / Certified by:

METCOR
7

DATE: 2012-11-26

METCOR INC.
560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC, J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Tel: 450-473-1884 / Fax: 450-491-5498

Certificat de Conformité Détailé

Detailed Certificate of Compliance

| | |
|--------------------------------|---------------------------|
| BON DE TRAVAIL
order | CHARGEMENT
load |
| 181377 | 1 |

CLIENT / customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

**DART AEROSPACE
1270 ABERDEEN
HAWKESBURY**

ON K6A 1K7

| Operation | Temp. spécifiée
Specified Temp | Temps de trempe
Spécifié
Specified Soak
Temp | Atmosphere | Carbone
Carbon
Potential | Q-Media
Q-Temp | Four #
Furnace # | Date Départ
Start Date | Heure d'entrée
Time In | Heure de sortie
Time Out | Date Complétée
Date complete |
|--------------------|-----------------------------------|---|------------|--------------------------------|-------------------|---------------------|---------------------------|---------------------------|-----------------------------|---------------------------------|
| 5.00
VAC HARDE | 1800 | 1 hrs 30
minutes | VAC | | AZOTE | | | | | |
| 6.00
TEMPER | 400°F | 2 hrs | air | | | 655 | | | | |
| 7.00
TEMPER 2 | 400°F | 2 hrs | air | | | 655 | | | | |
| 8.00
HARDN INS | | | | | | | | | | |
| 9.00
FINAL INSP | | | | | | | 11-26-2012 | | | 11-26-2012 |

COMMENTAIRES / comments

Le traitement thermique a été fait en utilisant des équipements en conformité avec la spécification demandée. Toutes les opérations de traitement thermique ont été faites en conformité avec les requis de la spécification demandée et toutes les vérifications et les tests demandées ont été faites et documentés. Aucun changement ou dérogation n'a été faite par rapport au traitement thermique demandé. On certifie que le matériel a été fabriqué, échantillonné, testé et inspecté en accord avec les spécifications du matériel et le bon de commande et le matériel rencontre les exigences spécifiées.

All the heat treatment processing performed on this order was accomplished using heat treatment equipment compliant with the requested heat treatment specification.

All the heat treatment operations were accomplished in accordance with the requested/required heat treatment specification and all required verifications/test have been performed and documented.

No unauthorized changes or deviations to required heat treatment specifications or procedures have been performed.

No unauthorized changes or deviations to required heat treatment specifications or procedures have been performed. We certify that the material was manufactured, sampled, tested and inspected in accordance with the material specification and the purchase order and was found to meet the requirements.

APPROUVÉ par / Approved by:

Isabel Otero

DATE: 2012-11-26

MEMOR
12.

/ Nous certifions que toute l'information comprise sur ce rapport est exacte et conforme aux requis du client./We certify that all the information on this report is exact and in accordance with the order requirements.